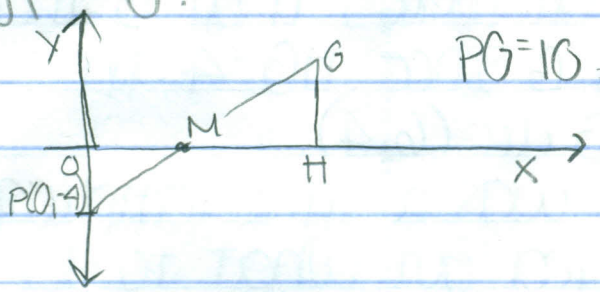
Alyssa Panzer
12-5-10
Pd. 3

10/10 (11)

POW #8

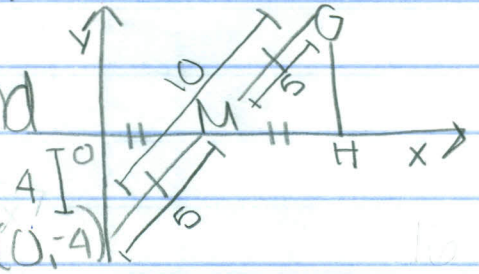
The line through the midpoint M of OH intersects the y-axis at P(0,-4). M is also the midpoint of PG, and PG = 10. What are the coordinates of G?



PG = 10, M = midpoint of PG & OH

In order to find the coordinates of G, you must first find the distance of OM using the pythagorean theorem. Since M is the midpoint of OH, once you found OM, you found MH. Then, since you know PG equals 10, and M is the midpoint of PG, you know PM and MO both equal 5.

Using Pythagorean theorem, you can find the missing side (OM) in the triangle OPM. When you plug in the numbers you get $4^2+b^2=5^2$. When you solve it you get $b=3$. That means OM and MH both equal 3, making OH equal 6. Then, since you know MH is 3,



OPM: $4^2+b^2=5^2$

You can use the pythagorean theorem to find the side GH in the triangle MGH. When I plugged the numbers in, I got $a^2+3^2=5^2$. When you solve for a, you get $a=4$. Since OH is 6, and the point O is at zero, that makes it at 6. Then you go up 4 to G since HG=4. The coordinates for G are (6,4).

This problem was a little complicated but after I figured out what to do it was easier. I asked a few people about how to do this problem. The hardest part was trying to figure out how to start the problem.